

Criticality Safety Officers at Rocky Flats



Best Practices Workshop

Albuquerque

October 23, 2000

Recent Criticality Safety History



1951 – Operations begin

1989 – Allegations

Environmental laws

Criticality accidents

1990 – Operations stopped abruptly

1990 – New contractor–mandate for radical change

1993 – End of defense mission

1994 – Undisciplined draining incident

1995 – Multiple contractor system instituted

Operations and Criticality Safety



■ Early History –

- Good interaction**
- Innovative analysis and control methods**
- Relatively stable criticality safety staff**

■ Early 1990's

- Significant outside attention**
- Rapid criticality staff turnover**
- Many new controls on operations**
- Evaluation response time long**

Operations-Criticality Safety Relations



■ Operations

- observed high turnover of criticality safety staff**
- suspicious of new controls**
- facility goals confronted by a low probability accident**

■ Criticality Safety

- trouble getting information necessary for evaluations**
- unprofessional communications**
- significant project changes without informing analyst**
 - consistent rework**

Role of Criticality Safety



- **Safety oft considered an obstacle to be overcome rather than a resource to protect the employee.**
- **Evaluations and criticality safety controls considered a permissive to start an operation – not a commitment to understand or comply.**

General Status in mid 1990's



- **Many practices developed in response to regulatory initiatives**
- **Large staff with few veterans**
- **Most controls had scanty documentation**
- **Excessive debate on basic requirements**
- **Program element responsibility diffuse**

Site Response to Issues



- **New manager**
 - **Observations and Interviews**
 - **Occasion for Program Development**
- **Interface with Operations**
 - **Fundamental Issue**
 - **Needed structural response**

Wide Discussion on Ops/CS Interface

- **Decide to build new program and build it around communication**
 - Other sites surveyed
 - RFETS group convened
 - Safety/Operations/Union
 - Extensive Offsite Review
 - Consensus – Individual in Operations as bagholder
- **Comprehensive Program Manual**
 - CSO at core

CSO job description



- **Set priorities for Criticality Safety staff**
- **Conduit of Information**
 - **Documents & People**
- **Approve evaluations and controls**
- **Develop Implementation Plan for Controls**
- **Manage nonconformance response**
- **Decide or mediate compliance issues**

Initial CSO qualification

- **Considerable operations experience**
- **Qualification Card**
 - **Reading list (Knief book, Handbooks, Accidents)**
 - **Authorization basis**
 - **CSOB**
 - **NCSM**
- **Qualification Board**
- **OJT with Criticality Safety Engineer**
- **INM short course on criticality safety**

Current CSO qualification



■ Qualification Card requirements

- basic – 12 site courses**
- reading list**
 - Handbooks and ANSI standards**
 - Site manuals and procedures**
- 7 facility walkthroughs**
- 7 system reviews with SME**
- 6 specific OJT assignments**

■ Qualification Board

■ short course on criticality safety

Facility manager CSO report



- **Provide considerable knowledge to facility**
- **Resource for problem solving**
- **Coordinated better evaluations**
- **Assured operator understanding of evaluations and controls**
- **Resulted in fewer violations of controls**
- **Problem – too much to do**

DNFSB staff report May, 2000



- Overall Assessment-Criticality Safety Program
 - mature
 - functioning adequately
 - ranks among the best in the complex
- Notable Strengths
 - presence of criticality safety personnel on the operating floor
 - Criticality Safety Officer liaison
 - clarity of the criticality safety evaluations

DOE Field report on B371

January, 2000



- **“The criticality safety officer (CSO) program in Building 371 is effective in integrating NCS into operations.”**
- **“The NCS staff presence on the floor and interaction with operations has improved implementation of NCS controls and operator understanding and awareness of NCS.”**

Aftermath



■ Result

- Criticality Safety program healthy
- CSO a necessary element

■ CSO Program Needs

- time to develop
- continued attention
- High level company advocate
- periodic meetings with criticality safety